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U.S. Navy photo by PO1 Lewis Hunsaker

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Dr. Frank Loge, Director of the University of California, Davis (UCD) Center for Water-Energy Efficiency, offers the latest Defense Energy Seminar entitled, “Addressing California’s Water Needs Through Data and Collaboration,” in the Mechanical and Aerospace Engineering Auditorium, Oct. 14. Loge is an advocate for fundamental research to advance knowledge, develop and deploy technologies, and further policies that improve the environmental quality and efficiency of resource consumption.

Loge discussed some of the financial challenges facing major water utilities that distinguish it from other utility organizations. For major infrastructure and efficiency programs, for example, energy utilities have been able to tap into a state energy surcharge fund of about $1 billion annually, Loge explained, which hasn’t been available to water utilities until a bond measure passed a few years ago.

“This bond is a good step forward, but relatively small when compared to the energy sector,” said Loge. “For every gallon of water that you use, there is energy embedded in it.”

In other words, energy is directly connected to water, specifically, in the treatment and delivery of that water. Naturally, Loge explained, the primary ways to save energy in water is by making the system more efficient through better pumps, improved treatment technologies, and simply conserving water usage.

“We looked at the energy savings associated with the water conservation achieved in 2015, which was a 23.9 percent savings from the 2013 baseline,” said Loge. “$92 million of energy costs was saved through this water conservation … That’s $92 million into the water utilities to offset the revenue shortfalls from this water conservation effort.”

Moving forward, Loge sees new opportunities in the development of better tools for analyzing water use, deploying new technologies, updating processes, and issuing new policies.

“I would love work with anyone that would like to get involved in this area of work. I see a huge opportunity here, in the information that we are collecting, for others to provide solutions that we aren’t thinking about,” he said.